CLAIMS

1. A fluidising mat comprising an upper, gas-permeable sheet and a lower gas impermeable sheet, the upper and lower sheets being maintained in spaced apart superimposed relationship by a plurality of spaced-apart load bearing means, which define a plurality of passageways that extend in different directions over substantially the full area of the fluidising mat and intersect with each other to form a single continuous chamber between the upper and lower sheets.

2. A fluidising mat as claimed in claim 1, wherein the passageways are partially defined by one of the upper and lower sheets.

3. A fluidising mat as claimed in claim 2, wherein the plurality of passageways define a continuous plenum chamber.

4. A fluidising mat as claimed in claim 2 or claim 3, wherein the passageways are partially defined by the upper, gas-permeable sheet.

5. A fluidising mat as claimed in any of the preceding claims, wherein the upper sheet comprises a plurality of perforations, e.g. microperforations.

6. A fluidising mat as claimed in any of the preceding claims, wherein a plurality of the the load bearing means are secured to at least one of the upper and lower sheets.

7. A fluidising mat as claimed in any of claims 1 to 5, wherein each of the load bearing means is secured to, or forms an integral part of, at least one of the upper and/or lower sheets.

8. A fluidising mat as claimed in claim 7, wherein the load bearing means is secured only to the lower sheet.

9. A fluidising mat as claimed in claim 7 or claim 8, wherein the load bearing means is secured or bonded to both the upper and lower sheets.

10. A fluidising mat as claimed in any of the preceding claims, wherein the load bearing means are flexible and/or resiliently deformable.

11. A fluidising mat as claimed in any of the preceding claims, wherein the load bearing means comprises a plurality of spaced-apart encapsulated gas bubbles.

12. A fluidising mat as claimed in claim 11, further comprising an intermediate sheet positioned between said upper and lower sheets, which encapsulates said gas bubbles.

13. A fluidising mat as claimed in claim 12, wherein the lower sheet partially encapsulates said gas bubbles.

14. A fluidising mat as claimed in claim 12 or claim 13, wherein the lower sheet and the intermediate sheet are formed integrally.

15. A fluidising mat as claimed in any of claims 1 to 10, wherein the load bearing means comprises one or more of a bonded fibre structure, a foam, a sintered polymeric structure, foam beads or a three-dimensional structure formed from superimposed layers of net-like structures.

16. A fluidising mat as claimed in any of the preceding claims, wherein the perforated upper layer comprises an anti-static and/or electrically conductive material.

17. A fluidising mat as claimed in any of the preceding claims, wherein at least one of the upper and lower sheets is flexible.

18. A fluidising mat as claimed in claim 17, wherein both of the upper and lower sheets are flexible.

19. A fluidising mat as claimed in any of the preceding claims, further comprising a single point connection for connecting the fluidising mat to a source of pressurized air or gas.

20. A fluidising mat as claimed in claim 19, wherein the single point connection is located in the perimeter of the fluidising mat.

21. A fluidising mat as claimed in claim 20, wherein the single point connection is positioned on the mat such that, in use, it is adjacent to the discharge end of a container to which the mat is fitted.

22. A container liner comprising a fluidising mat as claimed in any of the preceding claims, wherein the fluidising mat comprises part of the container liner and the perforated upper sheet forms at least a part of the floor of the container liner.

23. A container liner as claimed in claim 22, further comprising retaining means for retaining the mat within the liner and for preventing discharge of the mat when the container is tipped.

24. A container liner as claimed in claim 22 or claim 23, wherein the fluidising mat is situated at least in the region of the liner immediately adjacent to a discharge port or ports.

25. A container comprising a fluidizing mat as claimed in any of claims 1 to 21 or comprising a container liner as claimed in any of claims 21 to 24.